

# Name: - L Prathyusha

In [3]:

```
import pandas as pd
from matplotlib import pyplot
from matplotlib import pyplot as plt
from statsmodels.tsa.api import ExponentialSmoothing, SimpleExpSmoothing, Holt
from pylab import rcParams
rcParams['figure.figsize']=20,5
```

In [7]:

```
series=pd.read_csv('C:/Users/Prathyu Lachireddy/Desktop/BP/Electric_Production.csv',header=
series
```

Out[7]:

|            | Units    |
|------------|----------|
| DATE       |          |
| 01-01-1985 | 72.5052  |
| 02-01-1985 | 70.6720  |
| 03-01-1985 | 62.4502  |
| 04-01-1985 | 57.4714  |
| 05-01-1985 | 55.3151  |
| ...        | ...      |
| 09-01-2017 | 98.6154  |
| 10-01-2017 | 93.6137  |
| 11-01-2017 | 97.3359  |
| 12-01-2017 | 114.7212 |
| 01-01-2018 | 129.4048 |

397 rows × 1 columns

In [8]:



```
data=series[1:50]

fig_dims = (7, 4)
fig, ax = plt.subplots(figsize=fig_dims)
fit1=SimpleExpSmoothing(data).fit(smoothing_level=0.2,optimized=False)

fit2=SimpleExpSmoothing(data).fit(smoothing_level=0.8,optimized=False)
```

C:\Users\Prathu Lachireddy\anaconda3\lib\site-packages\statsmodels\tsa\base\tsa\_model.py:524: ValueWarning: No frequency information was provided, so inferred frequency MS will be used.

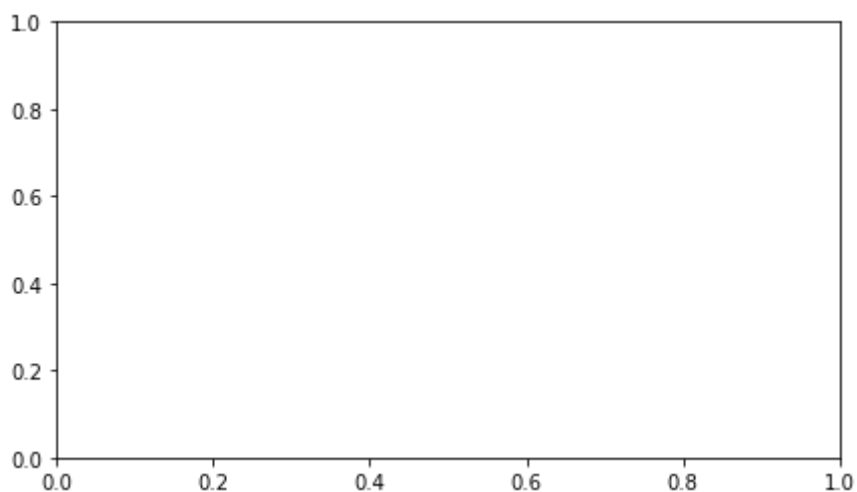
warnings.warn('No frequency information was')

C:\Users\Prathu Lachireddy\anaconda3\lib\site-packages\statsmodels\tsa\holt\_winters\model.py:427: FutureWarning: After 0.13 initialization must be handled at model creation

warnings.warn(

C:\Users\Prathu Lachireddy\anaconda3\lib\site-packages\statsmodels\tsa\base\tsa\_model.py:524: ValueWarning: No frequency information was provided, so inferred frequency MS will be used.

warnings.warn('No frequency information was')



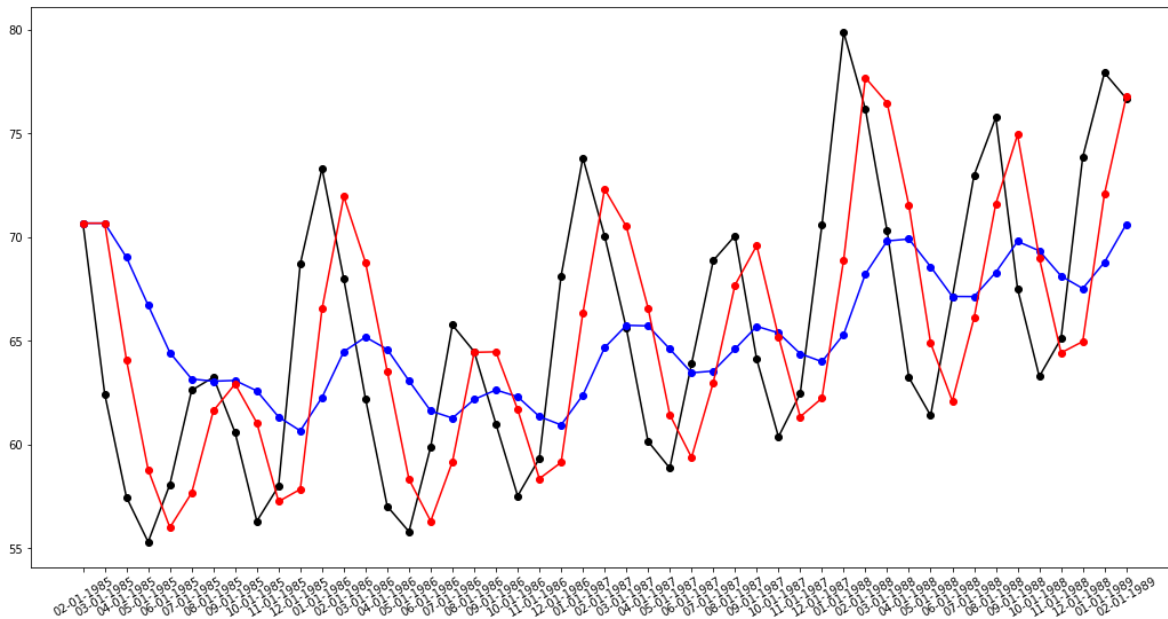
In [9]:

```
plt.figure(figsize=(18,9))
plt.plot(series[1:50],marker='o',color='black')
plt.xticks(rotation=30)

plt.plot(fit1.fittedvalues,marker='o',color='blue')
plt.plot(fit2.fittedvalues,marker='o',color='red')
```

Out[9]:

[&lt;matplotlib.lines.Line2D at 0xb51a9b9b80&gt;]



In [10]:

```

fit1 = Holt(data).fit()

fit2 = Holt(data,exponential = False).fit()

fig_dims = (15, 5)
fig, ax = plt.subplots(figsize=fig_dims)
plt.plot(data,marker = 'o',color = 'black')
plt.xticks(rotation = 30)

plt.plot(fit2.fittedvalues,marker = 'o',color = 'red')

```

C:\Users\Prathyu Lachireddy\anaconda3\lib\site-packages\statsmodels\tsa\base\tsa\_model.py:524: ValueWarning: No frequency information was provided, so inferred frequency MS will be used.

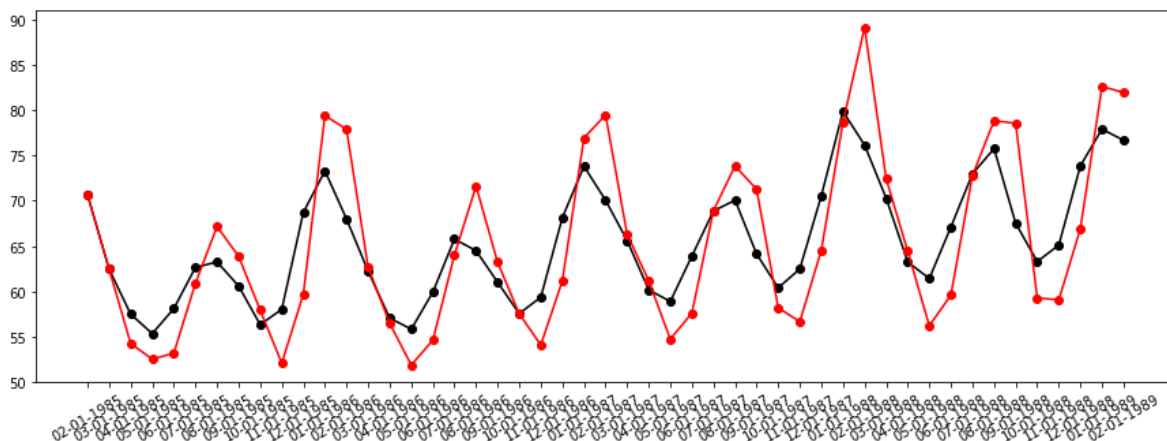
warnings.warn('No frequency information was')

C:\Users\Prathyu Lachireddy\anaconda3\lib\site-packages\statsmodels\tsa\base\tsa\_model.py:524: ValueWarning: No frequency information was provided, so inferred frequency MS will be used.

warnings.warn('No frequency information was')

Out[10]:

[<matplotlib.lines.Line2D at 0x1b51aa82c70>]



In [ ]: